Episode 44: Hurricane Warning

Chris Dall: [00:00:05] Hello and welcome to the Osterholm Update: covid-19, a weekly podcast on the covid-19 pandemic with Dr. Michael Osterholm. Dr. Osterholm is an internationally recognized medical detective and director of the Center for Infectious Disease Research and Policy, or CIDRAP, at the University of Minnesota. In this podcast, Dr. Osterholm will draw on more than 45 years of experience investigating infectious disease outbreaks to provide straight talk on the covid-19 pandemic. I'm Chris Dall, reporter for CIDRAP News, and I'm your host for these conversations.

Chris Dall: [00:00:42] In a briefing last week on the covid-19 pandemic, the Director General of the World Health Organization noted the encouraging worldwide trends of declining cases and deaths, but warned against complacency, urging countries to keep their covid-19 measures in place and individuals to keep their guard up in the face of the rising threat from coronavirus variants. But as cases continue their steady decline in the United States and more people get vaccinated, you can feel the complacency starting to set in. Americans are ready to be done with this pandemic. Will the threat of variant viruses and the possibility of another wave of infections be enough to prevent the US from becoming too complacent? On this February 18th episode of the Osterholm Update, we'll discuss the threat of the variants and how well the US is prepared to handle another wave of infections. We'll also get an update from Dr. Osterholm on the U.S. vaccination strategy, talk about a recent CDC study on double masking and a call to limit airborne transmission of the coronavirus in workplaces, and look at the first month of the Biden administration's response to the pandemic. And we'll answer listener questions about the safety of outdoor activity and highlight another pandemic act of kindness. But first, we'll begin with Dr. Osterholm's welcome and dedication.

Michael Osterholm: [00:01:49] Thank you, Chris, and welcome everyone to another weekly podcast. I so appreciate being with you and on behalf of all of our CIDRAP team, we thank you for joining us. We know you have many options to get your information on covid-19, and we're just happy that you chose to be with us. I also want to just welcome back so many individuals who have become what we consider to be part of our podcast family. And welcome all of you if this is your first time to join us on a weekly basis. Let me start out with the dedication, which is a repeat and for a reason. Last June twenty fourth, episode 13, hard to believe was that long ago, I dedicated this

podcast to the essential workers in this country. Eighty seven million of them, including 30 that were in the Category 1B under the CDC priority for vaccination and fifty seven million in 1C. I think it's important that we rededicate this episode to the essential workers because almost a year into this pandemic, they continue to be the steady, everyday source of what keeps us going. And as we know that many of them have been infected, the racial and ethnic disparities that occurs among the essential worker group that I mentioned in my previous dedication are real. And so just thank you to you for keeping our everyday world working. And but for you, this crisis would be so much worse in terms of how we get through it. Today we are all tired. We're all hurting. We're angry. We're very, very broken in some cases based on what has happened to us economically or other mental health challenges. But the one thing we can count on day after day after day is the essential workers are there. And for that reason, I dedicate this podcast to you. Today, February 18th, we will have ten hours and thirty nine minutes of sunlight in Minneapolis. That's one hour and fifty three minutes since December twenty first, as you know, the winter solstice. And importantly, it also represents a 20 minute improvement just since last week. And as we go forward each week, we will see longer days as the sun is getting closer and closer to that March 24th date. So everyone hang in there. The light is getting better. So in this week's episode, I'm going to continue with the metaphor I established a month ago on Meet the Press that our current situation is like we're on a beach on the Gulf Coast where the sun is blue, gentle breeze, 80 degrees Fahrenheit temperature and everything seems not only fine, but, frankly, beautiful. But beyond the horizon is this dangerous Category five hurricane, it's there. The hurricane, of course, is the new variants of covid-19 with the most immediate and critical threat coming from the variant B117 or sometimes referred to as the UK variant, which I understand the sensitivities to calling it that. When you think about the preparation for disaster like a hurricane, there's a lot of notable chaos and confusion that accompanies it. But in that period before it arrives, there is one really overarching factor that is more important than everything else. That factor is time. Time. Time becomes of the essence. If you waste it, you will pay a price. One of the great things science has brought us is the ability to forecast hurricanes a long ways out now. When you read of the horrific Galveston hurricane of nineteen hundred, the single deadliest disaster in the history of the United States, the residents were largely unprepared for the hurricane, which proved to be at least a Category four. The weather was described as unremarkable in the days before. And as a result, few bothered to evacuate over the bridges to the mainland. Today, the Weather Service gives us plenty of days of advance

warning, which leaves it in the hands of residents who decide if they want to stay or if they want to leave and whether you want to prepare or not. Just like advanced warnings of developments within a pandemic. So this week, I'm going to present you with something different. A scientific debate. I thought long and hard about what would be the best method to share this information with you and have chosen this approach. This is not a science versus an anti science debate. I'm not about to do that on this podcast. No, this is a, in my mind, a very civilized and hopefully intelligent debate currently taking place within our own scientific community. On one side of the debate, we have the suggestion that basically the worst of the pandemic is over with. That enough people have been infected with covid-19 and have developed immunity that were done with the surges. On the other side is the idea that, no, we haven't had nearly enough exposure and vaccination to prevent a new and very dangerous surge in the next five to 14 weeks. I am, of course, part of that latter school of thought. In this episode, I'm going to lay out the two sides. I'll let you decide. And if you believe my concern has merit, I think you'll realize there's no time to waste in getting prepared for what is coming.

Chris Dall: [00:07:52] So, Mike, let's first start with a brief assessment of how the Biden administration has handled the federal response to the covid-19 pandemic in President Biden's first month in office. How do you think it's going?

Michael Osterholm: [00:08:05] I believe that you want me to call balls and strikes the way I see it. Doesn't mean I'm always right. Not every umpire calls a perfect game, but I do my best. There is no question in my mind that this administration has brought attention to, priority to, an understanding of this pandemic, unlike what we saw in the previous administration. Again, that's just balls and strikes. I think that the administration has done a tremendous amount to bring the facts of the day together and to try to help us all understand what we can expect. As I've said before on this podcast, I believe that some of the people that the president has brought in around him are simply outstanding. They are the people that I trust, that I believe in, that I think are going to give us the best that they possibly can to get us through this. I won't agree with them on everything. I will talk later today about an issue around a letter that I'm a signatory on with regard to masks. But on a whole, I want it really clear that the administration is doing, I think, overall a great job. I so appreciate the president two nights ago in his town hall meeting, he clarified when vaccine would be available. Meaning that rather than the prediction by some it would be earlier in the spring, he clarified that it would be in July. I think he's

tried all along to set reasonable and honest expectations. So I just leave it here with reaffirming for everyone I will call balls and strikes. And I may be wrong, but I will do it with the same criteria of just, what do we know, what don't we know, what's the science to support an issue and how the administration is approaching the topic. And right now, I have to say that it's a very important time to making some very critical public policy decisions. And I will have more to say on that as we get into some of these areas ahead.

Chris Dall: [00:10:22] Covid-19 cases and hospitalizations are continuing to decline here in the United States and around the world. The World Health Organization reported this week that the number of global cases is at its lowest since October. But European countries are starting to report substantial increases in the proportion of cases caused by the B117 variant and B117 cases are increasing in the US as well. So, Mike, you talked of the coming Category five hurricane. Are we prepared for it or do you see more people in that group who think the worst is over?

Michael Osterholm: [00:10:56] Well, let me begin by talking about the Category five hurricane that I see coming. To help everyone get a clearer picture of the situation, I'm just going to present it in some detail in the form of that debate I talked about. This is something that a lot of the media have been asking me to engage in publicly, having a debate with other epidemiologists. But that's not something any of us want to do. None of us want to confuse the public with who said something louder or longer than someone else. There are people who are hard at work trying to undermine the public health community. Taking our scientific disagreements out of the scientific realm, trying to portray us as lost, when in fact that simply is not the case. The epidemiologists I know and respect are in agreement that the proliferation of the new variants is a serious threat. We're just in disagreement on how serious that situation is and how it will play out over the next couple of months. This is what we're going to examine in some detail. First, the debate. The debate I'm going to present, as I said, is within the scientific community. And it's a matter of will there be another surge in cases due to the B117 variant and how severe will it be? It really is all about what will happen with B117 in North America. One side of the debate, I will refer to as the no surge side, they feel there are factors that will prevent the B117 variant from having much of an impact this spring. You know who I'm talking about, who are in the media today aaying that. The other side I refer to as the surge side. These people believe everything points to the

threat being severe and needing preparation actions right now. As you know, I'm part of this side. Now this is a difficult issue, grant you, in that it becomes emotional quickly. Because if you believe in the surge side, then that means, oh, no, look what's coming. If you believe it's not going to happen, there's a sense of relief. Let me summarize the no surge side. Let's talk about the argument that there will be no surge. This is based primarily on three things. First, the number who are immune by infection. Second, the number who are immune by vaccination. If you take those two and add them up together, then we can determine, is this likely that herd immunity or sufficient number of previous infections are in our community to stop transmission? And the third thing is based on the experience we've already had with B117, what is likely to be the scenario unfolding going forward? Well, let's take them each separately. If one looks at the number of people in this country who are likely immune by infection, CDC's best estimates, of which I agree with, is that we're probably somewhere in the 80 million range, which is only about twenty five percent of the US population. If you look at that across the country, some areas are higher than that, but many are actually much lower. You then add in the number of who are immune by vaccination. According to the CDC, as of this week, fifty three million doses have been administered, with thirty eight million people receiving at least one dose. That's 14 million with two doses, twenty four million with one dose. So let's just even combine both of these to say thirty eight million on top of the 80 million. That's one hundred and ten million people, not even a third of the US population. There's absolutely no justification for suggesting that in of itself is enough to actually cause a herd immunity like effect in slowing down transmission. The other issue that comes up as well, B117 hasn't done anything yet that would make us believe that this is going to be a problem. And in fact, if we look at cases that keep coming down and down and down, you're right. If we look at B117 right now in the United States, there is no evidence of this big increase in cases. In fact, based on this week's data, we're running right in the neighborhood of sixty five to eighty five thousand cases reported a day. Far down from that three hundred thousand cases in January. But let me remind you, particularly if you're a routine listener to this podcast about shifting baselines, we have watched cases go high. First thirty two thousand then seventy thousand, and two hundred thousand, and three hundred thousand and drop in each case substantially and then quickly turn back up again. So you can't take the current situation as indication that, in fact, this is what's going to continue to happen. These are surges, which for reasons it's unclear yet to us, we don't understand exactly why they happen. It is not all human mitigation and it's not due to seasonality. We have no

evidence at this point that seasonality is playing a role in this, despite, again, others saying that. I keep repeating over and over again, just look at the trends that have happened. In July the house on fire from Southern California to Georgia, those states contributed substantially to that seventy thousand cases reported a day. The same area that was lit up in January that contributed to three hundred thousand cases a day in that period. And hardly was seasonality operative there. In addition, when cases go up and down, we can't attribute it totally to our human interventions. I'd like to think that we could, but we don't. We can't. Just like we see surges with influenza viruses up and down that have no impact based on human mitigation. We clearly have surges of cases that occur in this country geographically, we can't fully explain. Now, let me be clear, I believe that the mitigation strategies we take can reduce the size of those peaks. It can reduce the number of people who die. So no one can interpret my comments to suggest that I don't believe that our mitigation strategies are critical. But I've seen people try to explain that the entire increase or decrease is based on just what we as humans do. But the bottom line message here is, is that when you look at what's happening right now, you couldn't even begin to assume that non-pharmaceutical interventions like masking and distancing are whispering, bringing the case numbers down. We're in the worst place we've been. We're opening up everything. Governor after governor or mayor after mayor are rushing to open up everything. And I understand why the political pressure is absolutely enormous. The economic implications are huge. We're opening up all kinds of activities in our communities that have been closed restaurants, weddings, funerals, social events. We're seeing people travel unlike any time in the past year. Four million people just traveled last week for Presidents Day weekend in airplanes. if we are really expecting to see case numbers coming down because we're complying more with these distancing issues, boy the data don't support that. So I would say you can't use the fact that we've got it under control because of our actions as the reason why it's coming down. And if that's true, then you have to say, well, you also can't say you're going to control it going back up again. We may moderate its size. We may do something very important to reduce the number of severe illnesses, number of hospitalizations. But right now there is nothing on the no surge side argument that supports the case that this doesn't mean that B117 is not going to be a problem. So now let's go to the surge side that I'm on. Just remember that on January 22nd, the CDC published a model in the MMWR that actually addresses their concern about what B117 will do in terms of increase per what it has done in Europe and the Middle East. They were the ones that came forward and said, look at what this might do and this surge effort in March. If we

look what's happening in Europe and the Middle East, it's very clear that this has had tremendous impact there after it started out much like it has started in the United States, meaning that there were weeks where we have seen lower level transmission with a gradual increase. This past Tuesday, CDC reported that among the B117 variants in the United States there had been twelve hundred and seventy seven such variants reported from forty two states. If one looks at the B1351 variant from South Africa there we've had 19 reported cases in 10 states. And P1, the Brazilian variant, we've seen three cases reported in two states. Clearly the activity is with the B117. Places like California and Florida are really at the top of that list. Florida is now reporting four hundred sixteen such cases. California, one hundred and eighty six. Do I believe that they're representative of what's happening out there? No, we know we have underreporting occurring, a lack of sequencing. But just as was predicted two weeks ago, we're beginning to see the number of B117 variants double about every ten days. This is exactly what happened in Europe before we saw the major surges. So if we look at the UK, where today 80 percent of the isolates are B117. Their cases do continue to decline. But remember, they've been in a lockdown now since before Christmas, a real lockdown. Their peak average seven day new cases back then we're at sixty thousand cases a day. Today they're at thirteen thousand two hundred in that lockdown. They're ready to start relaxing a bit of that. But again, it shows you what it took to drive that down. Denmark is another country where we've seen forty two point five percent of their samples are B117 now, up from 30 percent the week before that and 19 percent two weeks before that. At this point, they, too, are seeing this challenge with B117. And I could go through the laundry list of other countries. I won't because it's the same story where this starts to transmit, it spreads. It causes severe problems. The data are clear now that there is, in fact, evidence of increased severe disease. What we have to understand right now is what we will be seeing in these next weeks ahead. Those who have been on this podcast with me know that I've been predicting cases throughout the duration of the pandemic. I've always told you to be skeptical of anyone that provides you data. Be skeptical of me. You have to understand some of the most vocal people right now who are critical of this idea that there will be a surge with B117 are the same people who early in the pandemic were critical that covid-19 was going to be a problem at all and actually said so publicly on many occasions and indicated that influenza would continue to be the most important infectious disease we'd have in the upcoming months. And I'm telling you right now, everything in my public health background, my training and forty five years in the trenches tells me that this is going to be a big peak. So why is

that important? Because we've got to start planning now for the impact on health care resources. You have to understand why it's important to get vaccinated. It's really critical that communities are ready for this, so that, we are going to get whipsawed. As I've said before, and I believe it so much, we are so good at this country of pumping the brakes after we've wrapped the car around the tree. I understand we want to open up all of our social venues, our restaurants, our bars, etc. I get that. But just know that I believe that in the weeks ahead, we're going to be doing a quick knee jerk. And at that point we will have helped this virus along as much as we possibly could in its earliest days of transmission. Everything governors and mayors are doing right now is going to help this virus basically take off. So my conclusion right now is not to prepare for a possible Category five hurricane would be irresponsible, especially on the radar, I believe provides a clear and compelling evidence it's coming. And I'll stick by this and I hope I'm wrong. I so hope I am wrong. I will be on this podcast in six to eight weeks from now if we haven't seen this surge, and I will apologize to you, I will try to explain why I think I was wrong and share with you. But if I'm not, please, we have to start getting ready and we're going to talk more about that in a minute when we talk about vaccination. So let me conclude this discussion about this is not just one of those academic arguments about how many angels can dance on the head of a pin. This has tremendous public health implications about recognizing the need to prepare for the worst days rather than feeling like we just have to shut him up and everything will be fine and we can just move on. That is simply not the case.

Chris Dall: [00:25:07] We've discussed the US vaccination strategy in depth in the last two episodes of the podcast and your argument for a one dose/delayed second dose strategy. So Mike, do you have any updates for our listeners on this issue? Are there any indications that this is being considered?

Michael Osterholm: [00:25:22] Well, based on my previous discussion just now of why I believe that B117 is going to take off and be a serious challenge here, it does bring me back to the whole issue of how we are using our vaccines. If you've been on this podcast the last two weeks, you've heard the debate, the discussion, the case I tried to make for why we could save lives. It's important for everyone to understand that the goal of this discussion is to try to find a way to minimize the number of severe cases, hospitalizations and deaths that could, in fact, be potentially averted. In addition, I want everyone to know that we will be providing much more detailed numbers later this week

in what we call a CIDRAP Viewpoint, a document which will lay this out in a decision analysis kind of way. So I'll walk through each of the numbers, where they come from. Our analysis does not address the issues of racial inequality, which is more important in terms of numbers in younger individuals, less than 65 years of age. And I think that's an important point. But let's understand, all we're trying to do here is minimizing the cases of severe disease, hospitalizations and deaths. Now, let me just walk through this decision analysis, which will, in fact, be included in a CIDRAP Viewpoint, a document that we're going to publish later this week in much more detail. If we look at it, let me just summarize four points for you. First of all, those 65 years of age comprise a risk group with significant covid-19 associated morbidity and mortality, and they make up the majority of the burden on the health care system when they become ill. They account for 80 percent of the hospitalizations with the risk of hospitalizations at least five times that of 18 to 29 year olds. They account for 80 percent of the deaths, with the risk of death at least 90 fold greater than that of 18 to 29 year olds. Based on this information, you can see why this is the key group to keep from getting infected, becoming seriously ill and being hospitalized. Point two, we know that approximately 64 million people in the U.S. are 65 years of age and older and that two million doses are administered per day and that approximately 30 percent of those doses being administered are given to those 65 years of age or older. So 54 million total, two million doses of vaccine are being administered every day, and 30 percent of the doses are going to that age group. According to the CDC, as of early this week, fifty three million doses have been administered with thirty eight million people receiving at least one dose. So thirty eight million people have been vaccinated to date. Fourteen million with two doses. Twenty four million with one dose. That leaves twenty four million people needing a second dose. If we make the assumption that we're going to continue to get those two million doses per day, if we did nothing else between February 18th, today, and February 27th, we would only give second doses. And you're going to see that happening more and more in this country, second doses only. Because we don't have enough for any first doses. That's a challenge if we're trying to get ready for an incoming surge. Now, I recommend people get their second dose if in fact they are already scheduled. Nobody should be denied a second dose of those who have gotten their first dose and have the date and time. We've determined that between February 27th and March 31st, we could administer up to sixty four million doses, assuming that same two million doses a day. If we stick with this two dose strategy and 30 percent of the vaccine supply continues to go to those 65 years of age or older, we will leave 30.5 million unvaccinated older adults

all the way through into April, right at the time when the surge is going to be their most difficult challenge. We've gone through and looked at other dosage regimens and schedules. Let me just say that if we take a one dose strategy now, a delayed second dose later, and if the data support that and again, all I'm asking for is a data review, if we do that, go to a one dose strategy and we ensure that 50 percent of the vaccine now goes to adults 65 years of age or older, we'd be down from 30.5 million people without access to the vaccine to 10.9 million people without access to the vaccine. Importantly, if we transition to a strategy beginning on February 27, after all the second doses have been administered for those who have had first doses, if in which in that new strategy we put all the doses to adults sixty five years of age and older, we could vaccinate everyone over age 65 with at least one dose. And as we'll show you in the document that we're preparing that will be made public, we would save countless thousands of lives. So in summary, we could vaccinate the majority of those sixty five years of age and older as soon as possible. And time is critical. This is our issue with the hurricane planning. We can't wait to do this when the outer wall is about to hit the beach in terms of evacuating. So now, if we could switch to a one dose strategy for those 65 years of age and older and ensure a larger proportion of those getting vaccinated are in the sixty five year old age group, I am quite convinced we would save many, many thousands of severe illnesses, many, many thousands of hospitalizations and many, many thousands of deaths. Take a look at our data, which will be coming out. I just wish that we could have somebody take this issue on at our federal government level and evaluate it for what it is. Just basically take all the data from the trials, take all the data we have from countries like Israel, bring it together, take all the experts that we have talked about in the previous podcast and bring them together and ask, would this work? But the longer we wait, the less time we're going to have to get people vaccinated. Because remember, once you're vaccinated, it still takes three weeks, roughly two to three weeks before you start developing immunity that would protect you. Now, there was good news in an article this past week from Bloomberg which suggested that someone at CDC had shared that the working group, the ACIP, the Advisory Committee on Immunization Practices, has debated the idea and that it is not yet determined if the full committee will take up the issue and provide official guidance. But the fact that they're even talking about it, I think is really a very, very important point. So all we're asking for is a review. We're talking about potentially thousands of lives, thousands of lives. Finally, I know that when the surge occurs and we haven't done anything to better protect the sixty five year

age group and older, we will be asked lots of questions about why we didn't. So now's the time to address this in a timely manner.

Chris Dall: [00:33:16] So we've focused a lot on the US vaccination efforts on the podcast, but just looking globally at vaccination, Mike, the WHO noted last week that there are nearly 130 countries with 2.5 billion people that haven't administered a single vaccine dose. So if that trend continues, what will it mean for efforts to bring the pandemic to an end?

Michael Osterholm: [00:33:35] Well, we keep hearing this term 'vaccine nationalism', which is referring to the high income countries having early and quite honestly robust access to vaccines where much of the world has little to no access. And this has come across often as an argument about humanitarian or altruistic considerations. And while that surely is the case, those are real, I think the real challenge we have is looking at how are we going to control this pandemic in the United States with vaccine if the rest of the world, particularly in low and middle income countries, continue to have a house on fire experience because they have no vaccine. That is where the variants are going to come flying out of. The variants that very well could defeat the immune protection of our own vaccines in the high income countries. And if there is an analogy here, it's just like antibiotic resistance. You know, if a country somewhere in the world abuses its use of certain antibiotics in certain environmental settings or in certain clinical settings, we see resistance develop. And before long, that bug is spread throughout the world and now we're all the recipient of that problem. In this case, the same is true. If we have lots of human disease in these countries, we know that it's natural infection immunity that has driven the variant production so far, so why should we be surprised if suddenly all these new variants come flying out of these countries and now challenge our vaccines? So we have to understand that this is also a strategic and critical public health action we have to take to assure that the world does have access to the vaccine. So, yes, it's humanitarian. We need to do it. It's the right thing to do. But it's also the critical security and public health action we need to take is to make sure that these countries are covered. And I'm not hearing that discussion. I'm just not. To me, it's really shortsighted that here we are trying to protect ourselves with these vaccines, trying to limit the variant situation and then yet doing nothing about its creation in many places in the world. So COVAX, which is the group that we've talked about under the WHO and other foundations, trying to develop vaccine access for the countries of the world is surely

helpful. But it is by itself right now not the answer. We need a much more aggressive global effort to vaccinate the world. Just remember that helping the rest of the world get vaccinated is a humanitarian effort. Thank you for doing that. But also never forget it is a very strategic effort to protect our vaccines and we can't forget that either.

Chris Dall: [00:36:48] Let's turn now to the issue of respiratory protection. Last week CDC released a paper suggesting double masking or improving the fit of a single mask could offer increased protection. And this week, you co-authored a letter to the Biden administration calling for strong, immediate measures to limit inhalation exposure to sars-cov-2 in workplaces. So what can you tell us about the CDC study and the letter and how those two are connected?

Michael Osterholm: [00:37:11] Well, let me start out with the CDC study that came out looking at double masking and this idea that from a respiratory protection standpoint, if a little works a lot will be better, is absolutely not true. There's no valid assumption that can be made with respiratory protection in that regard. And what I mean by that, it all comes down to two things fit and filtration. We've talked about that so many times. And in some cases, double masking could, in fact, improve the performance of your respiratory protection activity if in fact, it even holds whatever you have in front of your face with one filtration device, whether it be a medical procedure mask or face cloth covering, and then something else that holds that even tighter so there's no leaks around it. Now, the problem with this, of course, is the more filtration you get, the greater the likelihood it's going to be harder to breathe, the more uncomfortable it's going to be, and the less likely you are to use it. We've talked about this time and time again. What we understand so very well is with n95 respirators, why they are different and why they're so important in protecting us is that they have that very tight face fit, the seal. Those are swim goggles that don't leak at the edges. But also the material which you breathe through is very porous, but has an electrostatic charge that traps the virus so you can still breathe in and out. And while some would say these are not the most perfect or comfortable things to wear for x hours a day, they're much, much more comfortable and amenable to being worn than many of the face cloth coverage. Well, CDC did this study looking at basically unknotted medical procedure masks, double masking and trying to understand how much more protection would occur. And this study was interpreted to say, "Yep, double masking is it," without any consideration of did the double mask improve things or make things worse? And it was interesting

because the media largely missed the study's implications and left people, I think, with the sense that just double mask, which again, I would say could be helpful, but also could be very detrimental. And in the discussion, the article actually said, "These laboratory based experiments highlight the importance of good fit to maximize overall mask performance. Medical procedure masks are intended to provide some source control e.g. maintain the sterility of the surgical field and to block splashes. The extent to which they reduce exhalation or inhalation of particles in the aerosol size range very substantially, in part because air can leak around the edges, especially through the side gaps." Remember how many times I've been saying this dating way back to last spring? They go on to say, "The reduction in simulated inhalational exposure observed for the medical procedure mask in this report was lower than reductions reported in studies of other medical procedure masks that were assessed under similar experimental conditions, likely because of substantial air leakage around the edge of the mask used here." A point that I just made. They themselves said it was all about face fit and face filtration. They went on and actually said, and I just I want to share this because I think it gives you a sense, they say, "The findings in this report are subject to at least four limitations. First, these experiments were conducted with one type of medical procedure mask and one type of cloth mask among the many choices that are commercially available and were intended to provide data about the relative performance in a controlled setting. The findings of these simulations should neither be generalized for the effectiveness of all medical procedure masks or cloth masks, nor interpreted as being representative of the effectiveness of these masks when worn in the real world settings." Did any of you hear that discussed? Did any of you hear the media talk about how limited the results of this study could be? Rather, you heard about double masking. The article goes on and says, "Second, these experiments did not include any other combinations of masks, such as cloth mask over cloth, medical procedure mask over other medical procedure masks, or medical procedure masks over cloth. Third, these findings might not be generalizable to children because of their smaller size or to men with beards and other facial hair which interferes with fit. Finally, although the use of double masking or knotting and tucking are two of many options that can optimize, fit and enhance mask performance for source control and for wearer protection, double masking might impede breathing or obstruct peripheral vision for some viewers. And knotting and tucking can change the shape of the masks such that it is no longer covering fully both the nose and mouth of persons with larger faces." I know everyone wants an answer that says, just tell me what to do, make this work. But I think when you

read the thoughtful, I think, thoughtful limitations of the study that was published by the CDC here, you wouldn't walk away saying, "Boy, double maskin works better." And yet that's how the media covered it. So I only point this out because I don't want to see anybody double masking now and actually putting themselves in more of harm's way because they've either compromised fit or filtration. And the last point, something I've made many times over and over again, is that in a study that we did freeze framing pictures in the evening news and looking at people wearing masks, up to 25.6 percent of the people in those shots wore their mask under their nose, the classic chin diaper. Providing no benefit whatsoever. And so if you're going to wear a mask, which we hope you do, you also have to understand that you've got to wear it correctly. Finally, possibly my biggest criticism of this entire article, was it not once in here did they mention time? Remember, a mask is a way to reduce the incoming. So imagine something's in the air and if I reduce it by 80 percent, that means great I've reduced my exposure. But if I spend five times as much time in that environment than I might have otherwise, I've now negated the whole benefit of that mask. And we need to continue to remind people about distancing the idea that that's what is really important. So the mask is just one part of the equation of protecting yourself. It's also distancing. That's really, really important. So I hope that people take away from this the fact that double masking might help. But distancing in the end is still going to be the important, and in most instances, the definitive reduction that will keep you from getting infected. And that's what we're all trying to do to get you to the point of vaccination. Finally, let me just say a few words about a letter that I had the good fortune to co-author with 12 other individuals quite notable in the area of aerobiology, in aerosol sciences, occupational health and infectious disease work, a letter that was written to the senior leadership and the US government, both at the White House and at CDC and the NIH. This letter summarized our serious concerns about the fact that CDC still does not recognize in its recommendations the importance of aerosol transmission and what that means. And as long as they don't, and their recommendations exclude this, that prohibits organizations like OSHA from enforcing the kind of standards that would protect workers, particularly essential workers. The very people I dedicated this podcast to. We will put this letter online at the website. You can go read it. And I hope that you get from a sense of it that we want to work closely with the administration. We're hopeful that the administration sees the importance of this and as a result of that does take under consideration the work that's been done by a number of international experts in the area of aerosol science, occupational health and infectious diseases. The days of the old droplet

paradigm have to be behind us. And I know this is an emotional issue with some. I will have friends who will be very upset that I'm part of this because they believe it's not necessary. I've never been more convinced that it is necessary. I think that the letter is self-explanatory, and I hope that the CDC, NIH and the White House address this in a way that will protect individuals from exposure, particularly in the workplace setting.

Chris Dall: [00:46:40] So now to our listener emails, this one is about outdoor activity and the potential for coronavirus transmission. Kevin writes, "As an avid nordic skier, I'm having a hard time thinking about sitting out the Birkie this year." And for our listeners, the Birkie is the Birkebeiner, America's largest cross-country ski race, which starts next week. However, Kevin goes on to write, "I also hear that outdoor transmission is a lot less likely. Are there any data on outdoor sports and coronavirus transmission?" So, Mike should Kevin rethink setting out the Birkie?

Michael Osterholm: [00:47:11] Kevin, go for it. Go for it. Don't sit out. But there are some caveats. Number one is you're absolutely right, the outdoor air and in a setting like that, I think is quite safe. Can I say that you won't come near someone who is infected? No, I can't. But the outdoor air will dissipate that virus quickly. Plus, you're moving. They're moving. The one thing I would say, it's not the race that you have to worry about. It's the car ride up to the Birkebiener if you're not by yourself. How can you be certain the other person is not infected unless they've been bubbling with you in your home? When you're there it's the social events that often take place in various locations, bars, restaurants and hotel reception areas, whatever. That's what you want to avoid. So I hope you do the Birkie and I hope you do really, really well. This is a year we need successes like this. But keep in mind that it's these other exposures that are the challenge. I hope you have someone you can ride with, who you've been podded with or they themselves have been sequestered. I can't say in more strong terms I really hope you do this and I hope you report back to us. We'll report it on the podcast here how well you do. So please go for it.

Chris Dall: [00:48:33] The wonderful and inspiring pandemic acts of kindness keep rolling in from our Osterholm Update listeners. And we have a really nice one this week from a listener in Utah. Can you share it with the audience, Mike?

Michael Osterholm: [00:48:44] Thanks, Chris. You know, these are the ones I love. I have a bias. I know that. I really love acts of kindness involving kids or our senior citizens. Not that I don't think the rest of you are wonderful, you are. But there's something special about that. And when you can actually get a pet involved, that's even better. But this week's involves a young man, and this is an act of kindness from Angela. And she writes, "My ninth grade son Donovan had parent/teacher conferences this week. They were done via Zoom and all of his teachers were very complimentary and gave positive feedback about Donovan. We tried to sincerely and specifically thank each individual teacher for all their hard work. I have extreme respect for all teachers as my father and brother work in the public education sector. During this pandemic, the respect I have for educators has grown exponentially. They have such a tough and sometimes thankless job. After we ended the Zoom call for the final teacher, 15 year old Donovan turned to me and said, 'Mom, I have a feeling.' When I asked him about this feeling, his response was, 'We need to go to Swig and deliver a drink to each of my teachers.' Swig is a local soda shop that makes delicious concoctions and we cannot get enough of them. Donovan continued to tell me that he wanted to use a gift card he'd gotten for his birthday at the end of January to pay for all the drinks. We hopped in the car and he ordered 12 drinks total. Swig was so impressed with his kindness and willingness to spend his own money on teachers that they gave him two of the drinks for free and an additional one just for Donovan to enjoy. When we arrived at the junior high in Utah and walked into each teacher's classroom to deliver the surprise, their eyes lit up with joy. Donovan had excitement oozing out of him at every pore because he was so jazzed about doing something for others. I'm so proud of his selflessness and the recognition he has for his teachers and all their hard work. Thanks for the podcast, Angela."

Chris Dall: [00:50:52] And just a reminder to our listeners that if you want to share your pandemic act of kindness with us, please email us at osterholmupdate@umn.edu. Your closing thoughts today, Mike?

Michael Osterholm: [00:51:03] Well, first of all, thanks again for being with us. I know this was pretty heavy material. And I'm just trying to call balls and strikes and give you a sense of where we're at, where we're going, the considerations, what we must be thinking about. But, in the first instance, I just want to come back to the fact that, you know, every time I talk about cases and hospitalizations and deaths, you know, I just

can't help but come back to the fact that these are all our loved ones. These are the people who are our daughters, our sons, our grandfathers, our grandmothers, our fathers and mothers. And so from that perspective, I hope these podcasts never, never disrespect or forget about what's really behind this entire pandemic. So thank you. Thank you very much. And thank you for your ongoing acts of kindness and for all the information you share with us at CIDRAP. You truly are our lifeline from week to week. This week rather than close with a reading, a song, lyrics, whatever, I'm kind of dumbfounded about what I'm about to do here. Several weeks ago, we received contact by a representative from Peter Lake. Peter Lake, if you don't know, is an anonymous singer who has an increasing visibility in the music world and who by himself has produced some of the most beautiful music I could imagine. But he remains anonymous. He doesn't want to ever do concerts. He's not out publicly, never seen his face. And he wrote a song called Vaccinate with Love. It dates back to 2019 before the pandemic, but he's brought it back out. The song was inspired by his mother, who told him she had vaccinated him with love, meaning those ones who are loved gain strength and those who can love others have courage. Peter has become a listener of this podcast. Thank you, Peter. That means a lot. And frankly, the email I first got on this blew me away, the entire staff. I didn't know how to respond. It turns out that Peter is releasing this new single Vaccinate with Love, and he's dedicated it to me and he's actually taken opening words to the song that were a message that I had shared on this podcast. And this now is being released and all the profits are going to go to the Frontline Family Fund. That effort I started some months ago to help support families who have lost loved ones who are health care workers to covid-19. And the message Peter has in this song is just inspiring. In fact, I wish it would become an anthem for getting people vaccinated. And amazingly, it includes a number of noted musicians. Guns N' Roses lead guitarist Richard Fortus is on the track and probably the most influential drummer of our time, Charley Drayton, who's played with any number of groups, including the Stones is on the track. It was produced by David Maurice, who is known as a Producer, Engineer, etc.. Bridget Markham did the backup vocals and you have the opportunity here, hang on and you can hear this song in its entirety. And again, I just want to thank Peter for this act of kindness. It was remarkable what he did and what he's doing to donate all of the streaming royalties to the Frontline Families Fund. So let this be the reason to share with people why to get vaccinated. It's all about vaccinating with love. So I close this week's podcast with this music and with the hope that it inspires all of us to know a day when we all can get vaccinated with all of our

doses and the fact that we can bring this terrible, terrible pandemic under control. So as I close just again, thank you for being with us. Be kind. Be patient. Know this is our covid year. And thank you for all the inspiration that you provide us at CIDRAP to keep doing these week after week. We will never leave you and we will always call balls and strikes. Thank you. Thank you. Thank you.